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GENERAL AVIATION STATISTICAL DATABOOK

1989 Edition

FOREWORD

The GENERAL AVIATION STATISTICAL DATABOOK has become a useful tool to those examining our industry.

Several new items have been added to the 1989 edition of the DATABOOK. Data on the number of "original issuances" of pilot certificates is presented, including the number of additional ratings added to existing certificates. Also available for the first time is a time series of the number of active airmen, by type of flying. Since the FAA did not publish data on the number of airports in 1988, the DATABOOK is the only written source for this information.

We hope you'll keep your DATABOOK handy as a quick reference for all your questions on general aviation.

The General Aviation Manufacturers Association (GAMA) is a national trade association proudly representing 35 American manufacturers of the finest General Aviation aircraft, engines, avionics, instruments, related equipment and components. In addition to building nearly all the General Aviation aircraft flying in the United States today, GAMA member companies also operate aircraft fleets, airport fixed-base operations, pilot schools and training facilities across the nation.

Headquartered in Washington, DC, GAMA represents the interests of its members before the United States Congress, the Department of Transportation, the Federal Aviation Administration and other federal and state government agencies directly concerned with the air transportation system. It also maintains close working relationships with other associations representing various facets of the aviation community. Through its public information and education programs, GAMA promotes better understanding of the air transportation environment and the important role General Aviation plays in the national economy and serving America's transportation needs.

For more information on General Aviation, chartering or buying an aircraft, learning to fly, or joining one of the many aviation organizations serving the community, call or write the GAMA communications office. We are happy to guide you.

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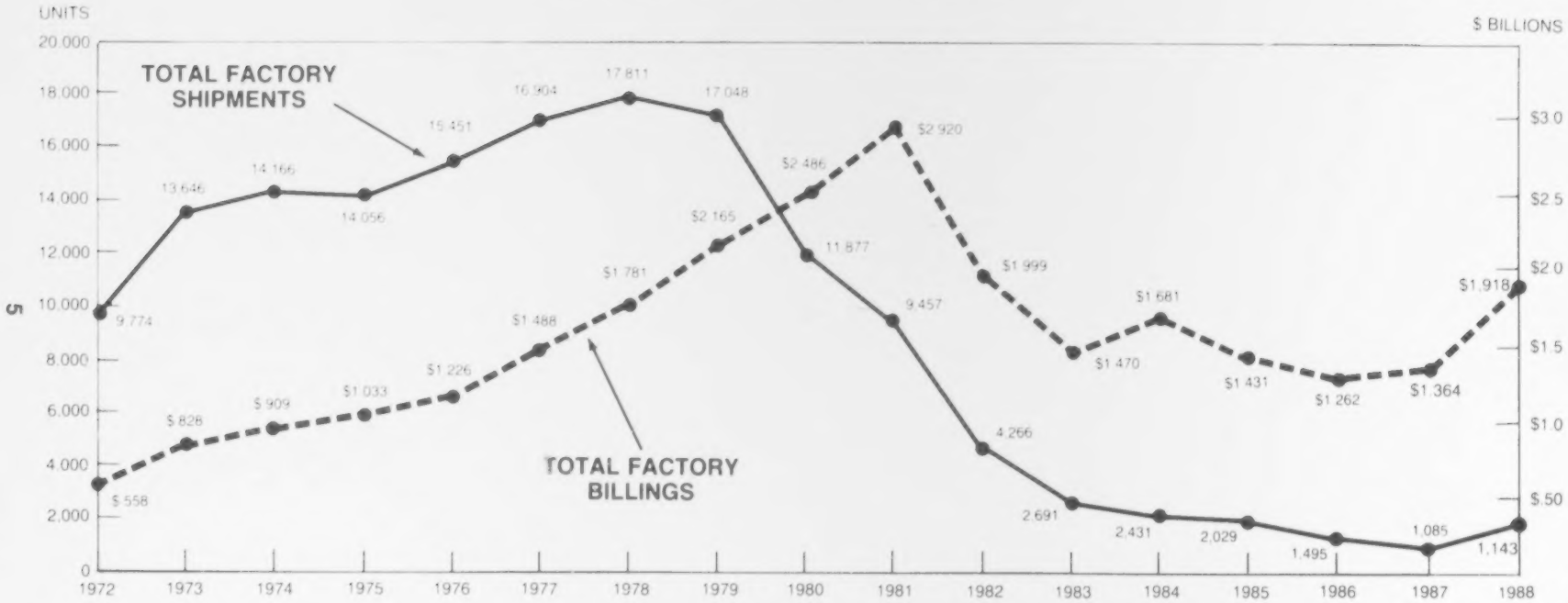
SHIPMENT STATISTICS

Annual Shipments of New U.S. General Aviation Aircraft by Units Shipped, Number of Companies Reporting, and Factory Net Billings

Year	Units Shipped	Companies Reporting	Factory Net Billings (Millions)
1946	35,000	—	$ 110.0
1947	15,594	15	57.9
1948	7,037	12	32.4
1949	3,405	11	17.7
1950	3,386	13	19.1
1951	2,302	12	16.8
1952	3,058	8	26.8
1953	3,788	7	34.4
1954	3,071	7	43.4
1955	4,434	7	68.2
1956	6,738	8	103.7
1957	6,118	9	99.6
1958	6,414	10	101.9
1959	7,689	9	129.8
1960	7,588	8	151.2
1961	6,778	8	124.3
1962	6,697	7	136.8
1963	7,569	7	153.4
1964	9,336	8	198.8
1965	11,852	8	318.2
1966	15,768	10	444.9
1967	13,577	14	359.6
1968	13,698	14	425.7
1969	12,457	14	584.5
1970	7,292	13	337.0
1971	7,466	11	321.5
1972	9,774	12	557.6
1973	13,646	12	828.1
1974	14,166	12	909.4
1975	14,056	12	1,032.9
1976	15,451	12	1,225.5
1977	16,904	12	1,488.1
1978	17,811	12	1,781.2
1979	17,048	12	2,165.0
1980	11,877	12	2,486.2
1981	9,457	12	2,919.9
1982	4,266	11	1,999.5
1983	2,691	10	1,469.5
1984	2,431	9	1,680.7
1985	2,029	9	1,430.6
1986	1,495	9	1,261.9
1987	1,085	9	1,363.5
1988	1,143	9	1,918.4

Source: GAMA

GAMA General Aviation Unit Shipments Billings



. . . AND BILLINGS

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GAMA General Aviation Aircraft Shipments by Type of Aircraft

Year	Total	Single Engine	Multi-Engine	Total Piston	Turboprop	Jet	Total Turbine
1962	6,697	5,690	1,007	6,697	-0-	-0-	-0-
1963	7,569	6,248	1,321	7,569	-0-	-0-	-0-
1964	9,336	7,718	1,606	9,324	9	3	12
1965	11,852	9,873	1,780	11,653	87	112	199
1966	15,768	13,250	2,192	15,442	165	161	326
1967	13,577	11,557	1,773	13,330	149	98	247
1968	13,698	11,398	1,959	13,357	248	93	341
1969	12,457	10,054	2,078	12,132	214	111	325
1970	7,292	5,942	1,159	7,101	135	56	191
1971	7,466	6,287	1,043	7,330	89	47	136
1972	9,774	7,913	1,548	9,446	179	134	313
1973	13,646	10,788	2,413	13,193	247	198	445
1974	14,166	11,579	2,135	13,697	250	202	452
1975	14,056	11,441	2,116	13,555	305	194	499
1976	15,451	12,785	2,120	14,905	359	187	546
1977	16,904	14,054	2,195	16,249	428	227	655
1978	17,811	14,398	2,634	17,032	548	231	779
1979	17,048	13,286	2,843	16,129	639	282	921
1980	11,877	8,640	2,116	10,756	778	326	1,104
1981	9,457	6,608	1,542	8,150	918	389	1,307
1982	4,266	2,871	678	3,549	458	259	717
1983	2,691	1,811	417	2,228	321	142	463
1984	2,431	1,620	371	1,991	271	169	440
1985	2,029	1,370	193	1,563	321	145	466
1986	1,495	985	138	1,123	250	122	372
1987	1,085	613	87	700	263	122	385
1988	1,143	628	67	695	291	157	448

Source: GAMA

Estimated Value of GAMA General Aviation Aircraft Shipments By Type of Aircraft (In millions)

Year	Single Engine	Multi-Engine	Total Piston	Turboprop	Jet	Total Turbine
1975	$290	$280	$ 570	$ 180	$ 281	$ 461
1976	376	320	696	238	293	531
1977	473	390	863	296	329	625
1978	516	493	1,009	394	378	772
1979	523	555	1,078	548	540	1,088
1980	391	403	794	875	816	1,691
1981	327	348	675	1,120	1,125	2,245
1982	200	220	420	590	990	1,580
1983	145	115	260	460	750	1,210
1984	147	133	280	436	966	1,402
1985	126	68	194	524	713	1,237
1986	80	43	123	430	709	1,139
1987	80	18	98	477	789	1,266
1988	66	12	78	596	1,242	1,838

Source: GAMA

GAMA General Aviation Aircraft Shipments by Year and Quarter

YEAR	Quarter I	Quarter II	Quarter III	Quarter IV
1962	1,782	1,744	1,329	1,842
1963	1,806	2,000	1,625	2,138
1964	2,156	2,503	1,934	2,743
1965	2,642	3,008	2,859	3,343
*1966	3,855	4,266	3,881	3,585
*1967	3,392	3,480	2,801	3,811
*1968	3,661	3,545	3,282	3,068
*1969	3,297	3,592	2,825	2,693
*1970	1,929	2,099	1,749	1,500
*1971	1,771	1,902	1,903	1,770
1972	2,157	2,564	2,417	2,636
1973	3,246	3,555	3,442	3,403
1974	3,493	3,576	3,488	3,609
1975	3,777	3,562	3,291	3,426
1976	3,949	4,159	3,479	3,864
1977	4,124	4,513	3,985	4,282
1978	4,176	4,621	4,672	4,342
1979	4,259	4,602	4,426	3,761
1980	3,512	2,756	2,796	2,813
1981	2,389	2,631	2,529	1,908
1982	1,390	1,126	890	860
1983	659	709	717	606
1984	523	563	681	664
1985	455	519	581	474
1986	285	364	393	453
1987	227	330	239	289
1988	260	291	252	340

*Quarterly figures do not sum to annual because some manufacturers reported annual shipments only.

Source: GAMA

GAMA General Aviation Aircraft Exports

Year	Units Exported	% of Total Production	Factory Net Billings (Millions)	% of Total Dollars
1965	2,325	19.6%	$ 61.2	19.2%
1966	2,903	18.4%	75.4	16.9%
1967	3,035	22.4%	76.5	21.3%
1968	2,803	20.5%	91.5	21.5%
1969	2,623	21.1%	107.1	18.3%
1970	2,170	29.8%	98.9	29.3%
1971	1,854	24.8%	95.6	29.7%
1972	2,254	23.1%	137.9	24.7%
1973	3,530	25.9%	230.2	27.8%
1974	4,248	30.0%	287.5	31.6%
1975	3,512	25.0%	308.1	29.8%
1976	3,539	22.9%	331.2	27.0%
1977	3,611	21.4%	354.5	23.8%
1978	3,612	20.3%	486.7	27.3%
1979	3,995	23.4%	600.9	27.8%
1980	3,555	29.9%	756.4	30.4%
1981	2,270	24.0%	749.0	25.7%
1982	1,162	27.2%	650.2	32.5%
1983	513	19.1%	316.5	21.5%
1984	334	13.7%	260.7	15.5%
1985	354	17.4%	230.0	16.1%
1986	441	29.5%	343.6	27.2%
1987	439	40.5%	469.3	34.4%
1988	425	37.2%	626.8	32.7%

Source: GAMA

GAMA General Aviation Aircraft Exports by Type

Year	Single Engine	Multi-Engine	Turboprop	Turbojet
1972	1715	455	55	29
1973	2674	732	58	66
1974	3371	732	75	70
1975	2680	644	122	66
1976	2704	669	114	52
1977	2835	594	126	56
1978	2712	652	166	82
1979	2942	774	181	98
1980	2565	635	245	110
1981	1546	363	259	102
1982	718	227	135	82
1983	298	119	66	30
1984	199	79	25	31
1985	208	69	49	28
1986	272	69	68	32
1987	252	60	78	49
1988	220	52	91	62

Source: GAMA

U.S. GENERAL AVIATION FLEET AND FLIGHT ACTIVITY

Number of Active General Aviation Aircraft in 1988 By Type and Primary Use

Aircraft Type	Active GA Aircraft	Executive	Business	Personal	Instructional	Aerial Application	Aerial Observation	Other Work	Commuter Air Carrier	Air Taxi	Other	Inactive
Total All Aircraft	210,266	10,882	34,918	122,557	16,674	7,042	4,759	1,841	973	6,518	4,081	49,168
Piston—Total	187,556	3,270	33,495	116,273	15,852	6,093	3,664	1,188	451	4,675	2,574	41,855
One-Engine	164,760	1,008	24,874	110,104	14,835	5,825	3,156	1,137	77	1,770	1,974	38,153
Two-Engine	22,698	2,262	8,620	6,167	1,016	245	508	51	370	2,850	585	3,619
Other Piston	99	0	0	2	0	23	0	0	4	55	15	82
Turboprop—Total	5,259	3,240	648	129	9	114	14	8	402	484	212	524
Two-Engine	5,057	3,229	631	95	9	10	12	8	398	484	181	496
Other Turboprop	202	10	17	34	0	104	1	0	4	0	31	28
Turbojet—Total	4,187	3,337	197	79	11	0	7	0	5	398	153	368
Two-Engine	3,821	3,067	183	72	7	0	7	0	5	395	85	240
Other Turbojet	367	271	14	7	4	0	0	0	0	3	68	127
Rotocraft—Total	6,406	991	468	935	334	835	772	238	113	962	758	3,362
Piston	2,584	17	212	821	294	454	404	65	5	14	298	2,750
Turbine	3,822	974	256	114	40	381	369	173	108	948	460	612
Other—Total	6,857	44	110	5,141	468	0	302	407	2	0	384	3,060

Source: FAA

NOTE: Row and column summation may differ from printed totals due to estimation procedures, or because some active aircraft did not report use.

General Aviation Hours Flown by Aircraft Type and Primary Use 1988 (Thousands of Hours)

Aircraft Type	Total Hours	Executive	Business	Personal	Instructional	Aerial Application	Aerial Observation	Other Work	Commuter Carrier	Air Taxi	Other
Total All Aircraft	33,593	3,748	4,960	10,813	5,309	1,989	1,412	567	1,118	2,842	835
Piston—Total	26,226	781	4,590	10,413	5,107	1,704	1,013	258	336	1,719	305
One-Engine	21,946	241	3,205	9,763	4,915	1,631	916	250	67	710	248
Two-Engine	4,257	540	1,384	650	193	72	97	7	265	992	57
Other Piston	22	0	0	85	0	1,142	0	0	3,513	17,388	71
Turboprop—Total	2,370	1,066	195	12	3	63	3	7	648	306	68
Two-Engine	2,286	1,061	187	10	3	3	3	7	646	306	60
Other Turboprop	84	5	7	2	0	59	0	0	2	0	8
Turbojet—Total	1,678	1,346	90	10	0	0	2	0	3	194	32
Two-Engine	1,548	1,233	85	10	14	0	2	0	3	193	23
Other Turbojet	130	113	6	0	0	0	0	0	0	1	9
Rotorcraft—Total	2,707	551	79	59	136	222	355	140	131	622	411
Piston	576	3	20	49	129	95	186	10	1	5	78
Turbine	2,131	548	59	10	7	128	169	130	130	616	333
Other—Total	613	4	7	319	63	0	38	162	81	0	20

Source: FAA

NOTE: Row and column summations may differ because of independent rounding or because some active aircraft did not report use.

Mean Year of Manufacture of the U.S. Registered Fleet in 1989

Aircraft Type	Engine Type	Seats	Year of Manufacture	
			N	Avg. Year
SE Fixed Wing	Piston	1–3	73,245	60.4
		4	93,851	67.5
		5–7	25,042	71.4
		8 +	369	56.4
	Turboprop	All	389	62.7
	Jet	All	198	58.9
ME Fixed Wing	Piston	1–3	112	57.4
		4	1,940	68.1
		5–7	18,392	69.4
		8 +	5,416	69.1
	Turboprop	All	6,066	77.0
	Jet	All	4,078	76.5
All			229,098	66.3

U.S. Active General Aviation Aircraft by Region and State

	1988	1987	1986	1985	1984	1983		1988	1987	1986	1985	1984	1983
ALASKAN	**6,309**	**7,496**	**7,557**	**6,421**	**7,684**	**6,075**	**N.W. Mountain**	**19,914**	**21,181**	**22,004**	**20,901**	**24,502**	**22,064**
Alaska	6,309	7,496	7,557	6,421	7,684	6,075	Colorado	3,782	4,374	4,273	4,606	5,180	4,407
							Idaho	1,836	2,062	2,274	1,839	2,328	2,146
CENTRAL	**12,150**	**13,221**	**13,085**	**12,377**	**13,331**	**12,720**	Montana	1,808	2,154	2,368	1,890	2,472	2,538
Iowa	2,615	2,910	2,683	2,800	3,416	3,165	Oregon	4,126	4,254	4,543	4,622	5,032	4,689
Kansas	3,500	3,827	4,033	3,855	3,713	4,519	Utah	1,246	1,070	1,284	1,106	1,337	1,440
Missouri	4,068	4,358	4,192	3,934	4,396	3,858	Washington	6,281	6,232	6,160	5,740	6,665	5,645
Nebraska	1,967	2,126	2,177	1,788	1,805	1,178	Wyoming	835	1,035	1,101	1,098	1,474	1,192
EASTERN	**23,928**	**24,075**	**25,487**	**22,585**	**24,297**	**24,006**	**SOUTHERN**	**34,629**	**34,611**	**33,642**	**32,430**	**34,007**	**34,356**
Delaware	1,112	627	932	530	533	809	Alabama	2,539	2,418	2,673	2,608	3,234	2,594
D.C.	35	37	21	50	31	58	Florida	13,831	13,614	12,882	12,340	12,720	12,688
Maryland	3,032	2,660	2,709	2,654	2,870	3,116	Georgia	4,974	4,789	4,517	4,588	4,450	4,955
New Jersey	3,755	3,899	4,291	3,741	4,041	4,021	Kentucky	1,740	1,615	1,738	1,635	1,802	1,752
New York	5,804	6,431	6,772	6,164	6,599	6,045	Mississippi	1,897	2,049	2,060	2,139	2,082	2,706
Pennsylvania	5,808	5,970	6,405	5,705	6,205	6,174	North Carolina	4,688	4,944	4,386	4,544	4,412	4,344
Virginia	3,291	3,205	3,225	2,741	3,137	2,554	Puerto Rico	72	338	352	233	422	362
West Virginia	1,091	1,046	1,132	1,000	880	1,229	South Carolina	1,988	1,782	1,787	1,700	1,661	1,686
							Tennessee	2,900	3,062	3,145	2,643	2,884	2,935
GREAT LAKES	**37,436**	**38,623**	**37,838**	**37,417**	**39,788**	**38,072**							
Illinois	7,276	7,688	7,603	7,155	9,087	7,700	**SOUTHWEST**	**29,506**	**30,357**	**32,669**	**32,414**	**35,341**	**35,478**
Indiana	4,229	4,098	4,212	4,139	3,797	4,207	Arkansas	2,354	2,724	2,514	2,687	2,920	2,977
Michigan	6,771	7,160	7,060	7,511	7,066	7,079	Louisiana	3,250	3,327	3,746	3,674	4,627	3,972
Minnesota	5,040	4,959	4,507	4,350	5,139	4,733	New Mexico	2,224	2,121	2,302	1,942	2,300	2,387
North Dakota	1,487	1,353	1,615	1,655	1,572	1,734	Oklahoma	4,254	3,827	4,147	4,234	5,345	5,634
Ohio	7,388	7,850	7,283	7,686	7,553	7,478	Texas	17,424	18,358	19,961	19,877	19,941	20,414
South Dakota	1,192	1,154	1,378	1,227	1,393	1,360							
Wisconsin	4,053	4,361	4,180	3,694	4,180	3,782	**WESTERN-Pacific**	**36,702**	**38,370**	**38,764**	**36,481**	**38,414**	**36,820**
							Arizona	5,118	5,085	5,787	4,796	5,177	4,737
NEW ENGLAND	**9,600**	**9,111**	**8,952**	**8,016**	**8,393**	**8,025**	California	28,910	30,982	30,387	29,392	30,494	29,236
Connecticut	2,231	2,016	1,992	1,724	1,863	1,426	Hawaii	600	486	366	348	463	381
Maine	1,307	1,301	1,320	1,039	1,055	1,263	Nevada	2,074	1,817	2,219	1,945	1,823	2,288
Massachusetts	3,687	3,413	3,248	2,994	3,316	2,737							
New Hampshire	1,270	1,338	1,443	1,363	1,298	1,430	**Other U.S. Territories**	**92**	**136**	**107**	**174**	**76**	**188**
Rhode Island	486	389	560	220	396	510							
Vermont	619	654	388	676	466	660	**Grand Total**	**210,266**	**217,183**	**220,043**	**210,654**	**220,943**	**213,293**

Column totals may differ from printed totals due to estimation procedures.

Source: FAA

FLIGHT HOURS BY TYPE . . .

Estimated Hours Flown in General Aviation by Type of Aircraft
(in Thousands of Hours)

Through December 31	Total	Fixed Wing			Rotocraft		Balloons Dirigibles Gliders
		Piston	Turboprop	Turbojet	Piston	Turbine	
1977	35,791	30,965	1,549	1,165	609	1,259	245
1978	39,409	34,043	1,606	1,194	806	1,421	338
1979	43,340	37,303	1,871	1,259	892	1,664	353
1980	41,016	34,747	2,240	1,332	736	1,603	359
1981	40,704	34,086	2,155	1,387	930	1,754	391
1982	36,457	29,950	2,168	1,611	579	1,771	379
1983	35,249	28,911	2,173	1,473	572	1,700	420
1984	36,119	29,194	2,506	1,566	592	1,903	358
1985	34,063	27,793	2,080	1,622	564	1,590	414
1986	34,416	26,861	2,882	1,654	804	1,821	394
1987	33,443	27,039	2,177	1,528	652	1,631	416
1988	33,593	26,226	2,370	1,678	576	2,131	613

Note: Columns may not add due to rounding and estimation procedures.

Source: FAA

. . . AND PER AIRCRAFT

Active U.S. General Aviation Aircraft and Average Hours Annually Flown Per Aircraft, by Type

	Estimated Active Aircraft					Estimated Average Hours Aircraft Yr.				
	1988	1987	1986	1985	1984	1988	1987	1986	1985	1984
TOTAL AIRCRAFT	**210,266**	**217,183**	**220,044**	**210,654**	**220,943**	**154**	**148**	**149**	**158**	**158**
Piston Total	**107,556**	**194,455**	**195,646**	**188,191**	**197,442**	**138**	**137**	**135**	**151**	**160**
Single engine	**164,760**	**171,035**	**171,777**	**164,385**	**171,922**	**133**	**130**	**128**	**140**	**138**
1–3 seats	59,553	63,533	62,427	58,829	61,989	132	134	125	135	139
4+ seats	105,207	107,502	109,351	105,555	109,933	134	126	130	142	137
Multi-engine	**22,698**	**23,307**	**23,721**	**23,659**	**25,258**	**181**	**203**	**204**	**208**	**218**
1–6 seats	15,143	15,741	16,166	15,627	16,539	150	165	172	174	181
7+ seats	7,554	7,566	7,555	8,032	8,719	256	289	280	274	303
Other Piston	99	112	148	148	262	225	140	111	184	433
Turboprop Total	**5,259**	**5,274**	**5,964**	**5,407**	**5,809**	**448**	**389**	**423**	**362**	**414**
Twin Engine										
1–12 seats	4,231	4,337	4,809	4,633	4,992	373	337	335	319	342
13+ seats	826	723	970	607	640	895	652	1,013	831	1,112
Other Turboprop	202	214	185	167	176	392	839	499	397	339
Turbojet Total	**4,187**	**4,338**	**4,480**	**4,375**	**4,320**	**405**	**356**	**354**	**369**	**354**
Twin Engine	3,821	3,900	4,037	3,914	3,780	412	371	385	375	349
Other	367	438	444	460	540	347	229	154	325	393
Rotocraft Total	**6,406**	**6,333**	**6,943**	**6,418**	**7,096**	**423**	**359**	**380**	**336**	**344**
Piston	2,584	2,813	2,921	2,877	2,936	228	229	273	192	187
Turbine	3,822	3,520	4,022	3,541	4,160	577	485	460	460	469
Other	**6,857**	**6,783**	**7,010**	**6,263**	**6,275**	**95**	**62**	**56**	**67**	**56**

Source: FAA

PILOTS

Active U.S. Pilot and Non-Pilot Certificates Held
(as of December 31, year indicated)

Category	1975	1976	1977	1978	1979	1980[1]	1981	1982	1983	1984	1985	1986	1987	1988
Pilot—total	**728,187**	**744,246**	**783,932**	**798,833**	**814,667**	**827,071**	**764,182**	**733,255**	**718,004**	**722,376**	**709,540**	**709,118**	**699,653**	**694,016**
Student	176,978	188,801	203,510	204,874	210,180	199,833	179,912	156,361	147,197	150,081	146,652	150,273	146,016	136,913
Private	305,863	305,005	327,424	337,644	343,276	357,479	328,562	322,094	318,643	320,086	311,086	305,736	300,949	299,786
Commercial	189,342	187,801	188,763	185,833	182,097	183,442	168,580	165,093	159,495	155,929	151,632	147,798	143,645	143,030
Airline transport	42,592	45,072	50,149	55,881	63,652	69,569	70,311	73,471	75,938	79,192	82,740	87,186	91,287	96,968
Helicopter (only)	4,932	4,804	4,819	4,874	5,218	6,030	6,453	7,034	7,237	7,532	8,123	8,122	8,702	8,608
Glider (only)[2]	5,348	5,789	6,208	6,541	6,796	7,039	7,388	7,842	8,157	8,390	8,168	8,411	7,901	7,600
Lighter-than-air[2]	3,132	2,974	3,059	3,186	3,448	3,679	2,976	1,360	1,337	1,166	1,139	1,133	1,153	1,111
Nonpilot—total	**323,934**	**334,681**	**348,584**	**362,350**	**377,213**	**393,486**	**398,368**	**420,595**	**432,890**	**447,462**	**412,741**	**410,079**	**427,962**	**448,710**
Mechanic[3]	205,436	212,303	220,768	228,743	237,611	250,157	262,705	277,436	288,355	298,028	274,100	284,241	297,178	312,419
Parachute rigger[3]	8,327	8,718	8,994	9,200	9,831	9,547	9,716	9,893	10,074	10,194	9,395	9,535	9,659	9,770
Ground instructor[3]	51,365	53,464	55,717	57,738	59,680	61,550	63,246	65,004	66,385	67,463	58,214	59,443	60,861	62,582
Dispatcher[3]	5,741	5,838	5,972	6,161	6,446	6,799	7,094	7,580	8,223	8,980	8,511	9,025	9,491	10,020
Flight navigator	2,321	2,214	2,155	2,092	1,994	1,936	1,785	1,695	1,636	1,603	1,542	1,512	1,145	1,400
Flight engineer	26,788	27,560	29,871	33,028	36,869	38,367	38,294	38,053	38,546	40,534	43,377	46,323	49,328	52,519
Flight instructor certificates[4]	44,777	46,236	49,362	52,201	54,398	60,440	57,523	62,492	62,201	61,173	58,940	57,355	60,316	61,798
Instrument Ratings[5]	203,954	211,364	226,334	236,312	247,096	260,461	252,535	255,073	254,271	256,584	259,559	258,845	266,122	273,804

Source: FAA

[1]For 1980 only, a valid medical certificate was defined as one that was issued within the last 27 months.

[2]Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above represent pilots who received a medical examination within the last 25 months.

[3]Numbers represent all certificates on record. No medical examination required.

[4]Not included in the total.

[5]Special ratings shown on pilot certificates which do not indicate additional certificates.

[r]Revised.

Estimated Active Pilots and Flight Instructors by FAA Region and State (December 31, 1988)

FAA Region and State	Total Pilots	Students	Private	Commercial	Airline Transport	Misc.[2]	Flight Instructor[3]
Total[1]	694,016	136,913	299,786	143,030	96,968	17,319	61,798
United States—Total	**673,102**	**133,262**	**296,070**	**136,685**	**90,340**	**16,745**	**60,845**
Alaskan Region—Total	**10,191**	**1,718**	**4,858**	**2,491**	**1,011**	**113**	**765**
Central—Total	**34,932**	**5,949**	**17,937**	**7,136**	**3,382**	**528**	**3,181**
Iowa	7,444	1,278	4,242	1,393	441	90	648
Kansas	9,416	1,393	4,960	2,002	930	131	856
Missouri	12,838	2,415	6,028	2,500	1,652	243	1,267
Nebraska	5,234	863	2,707	1,241	359	64	410
Eastern—Total	**90,964**	**20,536**	**37,864**	**17,854**	**11,669**	**3,041**	**8,805**
Delaware	1,664	345	688	335	259	37	196
District of Columbia	633	138	281	122	55	37	59
Maryland	9,990	2,107	4,483	1,936	1,181	283	916
New Jersey	14,426	3,202	5,887	2,273	2,273	491	1,432
New York	25,228	6,227	10,703	4,847	2,376	1,075	2,301
Pennsylvania	21,199	4,980	9,126	3,698	2,795	600	2,240
Virginia	15,338	2,954	5,480	3,899	2,549	456	1,439
West Virginia	2,486	583	1,216	444	181	62	222
Great Lakes—Total	**115,271**	**23,381**	**56,764**	**21,086**	**12,169**	**1,871**	**10,551**
Illinois	27,000	5,835	12,237	4,774	3,687	467	2,648
Indiana	12,463	2,634	6,269	2,335	1,055	170	1,169
Michigan	20,025	4,117	10,241	3,439	1,799	429	1,785
Minnesota	16,194	2,915	7,919	2,933	2,260	167	1,378
North Dakota	3,234	626	1,616	876	94	22	262
Ohio	22,194	4,526	11,022	4,110	2,076	460	2,134
South Dakota	2,532	459	1,272	605	170	26	215
Wisconsin	11,629	2,269	6,188	2,014	1,028	130	960
New England—Total	**34,433**	**8,282**	**14,811**	**5,819**	**4,582**	**939**	**2,914**
Connecticut	9,326	2,085	3,644	1,553	1,792	252	792
Maine	3,890	856	1,832	796	353	53	299
Massachusetts	12,966	3,497	5,862	2,062	1,150	395	1,094
New Hampshire	4,766	1,026	1,864	806	930	140	437
Rhode Island	1,608	346	783	274	159	46	120
Vermont	1,877	472	826	328	198	53	172
N.W. Mountain—Total	**64,091**	**12,328**	**28,529**	**13,145**	**9,332**	**1,567**	**5,979**
Colorado	17,695	3,828	6,560	3,464	3,283	560	1,823
Idaho	4,127	637	2,090	939	394	67	376
Montana	3,962	673	2,021	920	308	40	367
Oregon	9,830	1,743	5,222	1,979	678	208	825
Utah	5,469	1,072	2,457	997	814	129	473
Washington	21,772	3,990	9,083	4,453	3,712	534	1,947
Wyoming	2,046	385	1,096	393	143	29	168
Southern—Total	**117,731**	**22,928**	**46,663**	**25,807**	**19,350**	**2,983**	**10,628**
Alabama	9,332	1,713	3,693	2,356	703	867	937
Florida	45,663	8,417	18,094	10,555	7,793	804	4,194
Georgia	18,333	3,400	6,524	3,722	4,377	310	1,473
Kentucky	5,796	1,216	2,594	1,012	813	161	533
Mississippi	4,645	963	1,856	1,367	360	99	379
North Carolina	15,025	3,289	6,204	2,982	2,194	356	1,229
South Carolina	6,947	1,575	2,864	1,625	748	135	646
Tennessee	11,990	2,355	4,834	2,188	2,362	251	1,237
Southwest—Total	**82,964**	**15,005**	**34,948**	**18,549**	**12,552**	**1,910**	**7,770**
Arkansas	6,143	1,226	2,844	1,536	461	76	522
Louisiana	8,267	1,490	3,355	2,220	906	296	730
New Mexico	5,056	1,067	2,154	1,160	475	200	465
Oklahoma	11,353	2,148	5,639	2,452	935	179	946
Texas	52,145	9,074	20,956	11,181	9,775	1,159	5,107
Western-Pacific—Total	**121,715**	**23,135**	**53,696**	**24,798**	**16,293**	**3,793**	**10,252**
Arizona	15,478	3,015	6,603	3,261	2,073	526	1,464
California	97,245	18,382	44,141	19,533	12,286	2,903	7,952
Hawaii	3,598	786	865	867	865	215	293
Nevada	5,394	952	2,087	1,137	1,069	149	543
Outside U.S.—Total[4]	**20,914**	**3,651**	**3,716**	**6,345**	**6,628**	**574**	**953**
Other U.S. Areas	**1,862**	**554**	**610**	**344**	**319**	**35**	**0**
American Samoa	13	1	5	3	3	1	0
Canal Zone	1	1	0	0	0	0	0
Guam	121	18	30	22	49	2	0
Puerto Rico	1,417	467	468	247	205	30	0
Virgin Islands	307	66	107	70	62	2	0
Wake Island	3	1	0	2	0	0	0

Source: FAA

[1] Includes Outside U.S.
[2] Includes helicopter, glider, and lighter-than-air.
[3] Not included in total.
[4] Outside U.S. includes Other U.S. Areas outside of the 50 states and foreign countries.

Age Distribution of Active Airmen by Class and Sex*
(as of December 31, 1988)

Age	First Class		Second Class		Third Class		Total Airmen	
	Male	Female	Male	Female	Male	Female	Male	Female
Less than 15	3	—	4	—	77	15	84	15
15–19	3,024	335	6,060	699	17,120	2,511	26,204	3,545
20–24	9,841	784	16,391	1,536	27,363	2,960	53,595	5,280
25–29	16,689	1,029	21,547	1,545	36,300	3,892	74,536	6,466
30–34	20,876	846	22,102	1,171	43,766	4,399	86,744	6,416
35–39	17,865	451	25,260	1,071	43,463	3,991	86,588	5,513
40–44	18,570	195	27,148	783	40,001	3,418	85,719	4,396
45–49	15,718	101	19,100	528	31,842	2,351	66,660	2,980
50–54	11,303	41	14,878	334	25,615	1,557	51,796	1,932
55–59	6,580	20	11,837	299	23,953	1,140	42,370	1,459
60–64	1,479	10	8,656	225	18,007	660	28,142	895
65–69	687	4	5,473	124	9,360	256	15,520	384
70–74	125	2	1,607	41	3,402	72	5,134	115
75–79	12	—	349	11	836	23	1,197	34
80–84	4	—	67	1	177	2	248	3
85 and over	—	—	10	1	26	1	36	2
TOTAL	122,776	3,818	180,489	8,369	321,308	27,248	624,573	39,435
Average Age	38.9	29.2	40.3	33.8	39.9	35.4	39.6	34.5

Source: FAA

*Totals are based on active certified airmen within the past 25 months.

Estimated Total and Instrument Rated Pilots: December 31, 1976–88

Calendar Year	Total Active Pilots[1]	Instrument Rated Pilots	
		Number	Percent of Total
1988	557,103	273,804	49
1987	553,637	266,122	48
1986	558,845	262,388	47
1985	562,888	258,559	46
1984	572,295	256,584	45
1983	570,807	254,271	45
1982	576,894	255,073	44
1981	584,270	252,535	43
1980	627,238	260,461	42
1979	604,487	247,096	41
1978	593,959	236,312	40
1977	580,422	226,334	39
1976	555,625	211,364	38

[1]Excludes student pilots.

Source: FAA

Active Airmen by Type of Flying[1]

Year	Business		Other		Both	
	Total	Percent	Total	Percent	Total	Percent
1982	204,083	27.9	498,244	68.0	30,187	4.1
1983	195,707	27.3	488,917	68.3	31,234	4.4
1984	197,707	27.4	491,594	68.2	31,806	4.4
1985	206,146	29.4	471,551	67.4	22,352	3.2
1986	215,562	31.1	465,632	67.2	11,564	1.7
1987	220,012	32.1	458,751	66.9	6,789	1.0
1988	221,812	33.4	436,858	65.8	5,338	0.8

Source: FAA CAM1

[1]Based on pilot responses to a question on the medical certificate application.

U.S. Student Pilot Certificates Processed

Year	Total
1972	121,543
1973	131,384
1974	113,997
1975	127,424
1976	129,280
1977	138,816
1978	137,032
1979	139,956
1980	102,301
1981	117,962
1982	86,371
1983	94,981
1984	91,395
1985	87,004
1986	88,126
1987	86,011
1988	80,300

Source: FAA

Pilot Certificates Issued, by Category
1964–1988

Year	Student		Private		Commercial		Airline Transport		Helicopter (only)		Glider (only)	
	Original	Additional[1]	Original	Additional[1]	Original	Additional[1]	Original	Additional[1]	Original	Additional[1]	Original	Additional[1]
1964	84,629	NA	26,425	4,394	8,772	10,123	983	3,114	344	48	191	NA
1965	94,635	NA	33,337	4,981	11,043	12,557	1,177	4,018	549	74	252	NA
1966	129,180	NA	42,464	5,648	14,210	15,360	1,513	5,571	822	53	316	2
1967	159,399	NA	57,520	8,036	19,996	21,272	2,745	5,726	1,411	105	422	4
1968	149,444	NA	54,232	7,926	20,157	21,795	2,601	4,911	1,433	94	476	17
1969	132,926	NA	54,597	8,096	21,399	25,706	3,469	4,616	2,326	148	521	NA
1970	126,871	NA	53,026	8,374	21,130	25,746	3,745	3,917	4,250	187	652	NA
1971	128,004	NA	49,579	7,775	16,356	22,695	2,439	2,567	3,448	172	611	10
1972	121,543	NA	50,523	8,371	16,043	22,236	2,604	3,410	2,421	263	713	14
1973	131,384	NA	53,140	9,797	16,769	24,823	3,224	4,391	1,719	507	892	131
1974	113,997	NA	48,501	9,866	17,693	24,638	3,219	3,557	1,298	387	832	244
1975	127,424	NA	49,733	9,734	12,620	21,860	2,765	3,370	866	251	230	158
1976	129,280	NA	55,583	12,618	13,577	22,059	3,869	3,910	1,064	276	848	238
1977	203,510	NA	54,657	15,104	11,121	22,806	5,697	6,229	944	328	792	220
1978	137,032	NA	58,064	16,048	11,789	17,501	6,912	5,921	1,122	287	759	188
1979	135,956	NA	54,466	16,466	12,627	17,793	8,981	6,603	1,300	283	642	157
1980	102,301	NA	50,458	16,035	12,452	16,015	7,116	6,289	1,721	272	583	151
1981	111,531	NA	45,713	14,897	10,657	12,146	4,763	5,991	1,985	302	629	164
1982	90,816	NA	52,144	16,276	11,048	11,910	5,037	7,956	2,256	330	793	184
1983	92,239	NA	41,210	12,721	8,789	9,513	5,643	8,187	1,932	315	606	162
1984	90,167	NA	36,545	11,784	7,702	8,892	5,099	9,335	1,808	319	524	139
1985	86,060	NA	35,402	11,636	8,404	7,197	6,081	9,192	2,105	207	537	138
1986	88,699	NA	34,816	12,672	8,889	9,241	6,498	10,372	2,209	234	514	109
1987	85,611	NA	42,278	16,302	11,314	11,365	7,678	11,956	2,217	293	542	74
1988	86,193	NA	39,900	15,800	12,042	10,597	7,461	11,209	1,947	287	475	28

Source: FAA

Notes: [1]An additional rating added to an existing pilot certificate. (eg an instrument rating added to a private certificate).

AIRPORTS AND AERONAUTICAL FACILITIES

U.S. Civil and Joint-Use Airports, Heliports, Stolports, and Seaplane Bases on Record by Type of Ownership December 31, 1988

FAA Region and State	Total Facilities	Total Facilities, By Ownership		Paved Airports[1]		Unpaved Airports[1]		Total Airports[1]
		Public	Private	Lighted	Not Lighted	Lighted	Not Lighted	Public Use
Total	**17,327**	**5,043**	**12,284**	**3,510**	**334**	**461**	**1,047**	**5,680**
United States—total*	**17,259**	**4,995**	**12,264**	**3,487**	**331**	**461**	**1,034**	**5,640**
Alaskan—total	**603**	**402**	**201**	**38**	**3**	**76**	**208**	**325**
Central—total	**1,425**	**474**	**943**	**384**	**14**	**66**	**78**	**542**
Iowa	274	122	152	96	1	30	17	144
Kansas	398	131	259	101	6	18	23	148
Missouri	431	126	305	113	5	8	20	146
Nebraska	322	95	227	74	2	10	18	104
Eastern—total	**2,192**	**339**	**1,853**	**328**	**31**	**60**	**103**	**522**
Delaware	34	4	30	5	0	4	1	10
District of Columbia	16	7	9	2	0	0	0	2
Maryland	157	21	136	28	3	4	6	41
New Jersey	317	42	275	36	3	4	9	52
New York	506	85	421	81	11	24	40	156
Pennsylvania	756	77	679	88	7	20	32	147
Virginia	313	74	239	62	3	2	7	74
West Virginia	93	29	64	26	4	2	8	40
Great Lakes—total	**4,190**	**901**	**3,289**	**718**	**26**	**170**	**181**	**1,095**
Illinois	924	112	812	90	1	20	8	119
Indiana	545	88	457	77	4	11	19	111
Michigan	434	134	300	117	10	34	52	213
Minnesota	475	148	327	97	1	34	17	149
North Dakota	486	99	387	67	3	17	16	103
Ohio	714	135	579	123	2	22	35	182
South Dakota	155	76	79	50	2	18	6	76
Wisconsin	457	109	348	97	3	14	28	142
New England—total	**595**	**138**	**457**	**118**	**17**	**3**	**37**	**175**
Connecticut	128	16	112	19	0	1	3	23
Maine	146	45	101	30	7	1	17	55
Massachusetts	170	33	137	37	5	0	5	47
New Hampshire	67	15	52	16	2	1	6	25
Rhode Island	23	9	14	7	0	0	0	7
Vermont	61	20	41	9	3	0	6	18

*United States total excludes Puerto Rico, Virgin Islands, N. Mariana Islands, and South Pacific.
[1]Among all airports open to the public, either privately or publicly owned.

(Continued from page 20)

FAA Region and State	Total Facilities	By Ownership		Paved Airports[1]		Unpaved Airports[1]		Total Airports[1]
		Public	Private	Lighted	Not Lighted	Lighted	Not Lighted	Public Use
Northwest Mountain—total	**1,812**	**680**	**1,132**	**376**	**65**	**31**	**169**	**641**
Colorado	396	94	302	61	7	5	10	83
Idaho	209	129	80	42	11	0	61	114
Montana	212	121	91	64	10	12	37	123
Oregon	367	99	268	53	21	4	24	102
Utah	113	59	54	40	4	0	6	50
Washington	413	129	284	83	10	9	23	125
Wyoming	102	49	53	33	2	1	8	44
Southern—total	**2,293**	**813**	**1,480**	**625**	**59**	**33**	**90**	**807**
Alabama	201	99	102	86	8	4	5	103
Florida	669	155	514	94	9	9	17	129
Georgia	352	130	222	98	11	3	6	118
Kentucky	148	70	78	54	8	0	11	73
Mississippi	205	89	116	71	11	3	6	91
North Carolina	322	97	225	82	5	7	32	126
Puerto Rico	28	15	13	10	1	0	0	11
South Carolina	152	65	87	55	1	6	10	72
Tennessee	208	87	121	73	5	1	3	82
Virgin Islands	8	6	2	2	0	0	0	2
Southwest—total	**2,833**	**784**	**2,049**	**626**	**50**	**18**	**108**	**802**
Arkansas	195	103	92	81	8	0	8	97
Louisiana	385	96	289	66	4	1	10	81
New Mexico	167	75	92	47	6	0	16	69
Oklahoma	399	161	238	113	10	10	24	157
Texas	1,687	349	1,338	319	22	7	50	398
Western—total	**1,392**	**512**	**880**	**297**	**69**	**4**	**73**	**443**
Arizona	272	90	182	50	6	0	20	76
California	907	314	593	203	50	2	12	267
Hawaii	54	18	36	10	3	0	0	13
Nevada	127	63	64	23	8	2	28	61
South Pacific**	32	27	5	11	2	0	13	26

*Excludes Puerto Rico, Virgin Islands, N. Mariana Islands, and South Pacific.

**American Samoa, Guam, and Trust Territories.

[1]Among all airports open to the public, either publicly or privately owned.

Source: FAA

FAA Air Route Facilities and Services: 1972 through 1989

December 31,	VOR VORTAC	Nondirectional Beacons	Air Route Traffic Control Centers	Airport Traffic Control Towers	Flight Service Stations	International Flight Service Stations	Instrument Landing Systems	Airport Surveillance Radar
1972	991	706	27	355	324	7	403	125
1973	995	739	27	403	315	7	467	142
1974	1,000	793	27	417	320	7	490	156
1975	1,011	848	26	487	321	7	580	177
1976	1,020	920	25	488	321	7	640	175
1977	1,021	959	25	495	319	7	678	182
1978	1,020	988	25	494	319	6	698	185
1979	1,028	1,015	25	499	318	6	753	192
1980	1,037	1,055	25	502	317	6	796	192
1981	1,033	1,123	25	501	316	6	840	199
1982	1,029	1,143	25	492	316	6	884	197
1983	1,032	1,183	25	494	316	5	934	197
1984	1,035	1,211	25	497	310	5	955	197
1985	1,039	1,222	25	500	302	4	968	198
1986	1,043	1,239	25	686	293	3	977	312
1987	1,045	1,262	25	686	253	3	1,111	312
1988	1,043[a]	1,287[b]	24	692[c]	220	3	1,130[e]	311[f]

Source: FAA

[a]Includes 73 nonfederal and 37 military.

[b]Includes 913 nonfederal and 67 military.

[c]Includes 3 military combined center radar approach control facilities (CERAP).

[d]Includes 64 nonfederal and 211 military.

[e]Includes 22 Landing Directional Aid (LDA), 123 nonfederal, 20 military, 180 partial, 7 ISMLS, and 36 SDF.

[f]Includes FAA, military and nonfederal.

FORECASTS AND OTHER INFORMATION

Active General Aviation Aircraft
(Thousands)

As of December 31	Fixed Wing				Rotorcraft		Other	Total
	Piston							
	Single Engine	Multi-Engine	Turboprop	Turbojet	Piston	Turbine		
Historical								
1979	168.4	25.1	3.5	2.7	3.1	2.7	4.8	210.3
1980	168.4	24.6	4.1	3.0	2.8	3.2	4.9	211.0
1981	167.9	25.5	4.7	3.2	3.3	3.7	5.0	213.3
1982	164.2	25.0	5.2	4.0	2.4	3.7	5.2	209.7
1983	166.4	25.1	5.5	3.9	2.5	4.0	5.9	213.3
1984	171.9	25.5	5.8	4.3	2.9	4.2	6.3	220.9
1985	164.4	23.8	5.4	4.4	2.9	3.5	6.3	210.7
1986	171.8	23.9	6.0	4.5	2.9	4.0	7.0	220.0
1987E	171.0	23.4	5.3	4.4	2.8	3.5	6.8	217.2
Forecast								
1988	169.5	23.3	5.9	4.5	2.7	4.1	7.1	217.1
1989	167.9	23.2	6.3	4.8	2.8	4.3	7.4	216.7
1990	166.4	23.0	6.7	5.0	2.8	5.0	7.7	216.6
1991	165.8	22.9	6.8	5.2	2.7	5.0	8.0	216.4
1992	164.9	22.8	6.9	5.5	2.6	5.4	8.3	216.4
1993	164.3	22.8	7.1	5.8	2.6	5.7	8.6	216.9
1994	163.8	22.9	7.4	6.1	2.6	6.1	8.9	217.8
1995	163.3	23.0	7.7	6.3	2.6	6.6	9.2	218.7
1996	162.8	23.1	7.9	6.5	2.5	6.8	9.3	218.9
1997	162.5	23.2	8.1	6.7	2.4	7.2	9.5	219.6
1998	162.3	23.3	8.3	6.9	2.4	7.6	9.6	220.4
1999	162.0	23.4	8.5	7.1	2.3	8.0	9.8	221.1

Source: FAA

Notes: Detail may not add to total because of independent rounding.
An active aircraft must have a current registration and it must have been flown at least one hour during the previous calendar year.

Forecast Active Pilots by Type of Certificate
(Thousands)

As of December 31	Student	Private	Commercial	Airline Transport	Helicopter	Glider	Lighter-Than-Air	Total	Instrument Rated[1]
Forecast									
1988	147.7	301.2	144.3	95.6	8.8	8.0	1.2	706.8	270.9
1989	150.6	301.8	145.0	100.1	8.9	8.2	1.2	715.8	275.8
1990	153.2	302.7	146.5	103.8	9.0	8.3	1.2	724.7	279.9
1991	155.5	303.3	148.0	107.6	9.1	8.4	1.2	733.1	284.1
1992	157.4	303.9	149.4	111.6	9.3	8.5	1.3	741.4	288.4
1993	158.9	304.8	150.9	115.7	9.4	8.6	1.4	749.7	291.9
1994	160.1	305.7	152.4	118.9	9.5	8.7	1.5	756.8	295.4
1995	160.9	306.7	154.0	122.1	9.6	8.8	1.6	763.7	298.9
1996	161.5	307.6	155.5	125.4	9.7	8.9	1.7	770.3	302.5
1997	162.0	308.5	157.1	127.9	9.8	9.0	1.8	776.1	304.9
1998	162.5	309.4	158.6	130.4	9.9	9.1	1.9	781.8	306.4
1999	163.0	310.4	160.2	133.0	10.0	9.2	2.0	787.8	308.0

Source: FAA

(1) Instrument rated pilots should not be added to other categories in deriving total.

Notes: Detail may not add to total because of independent rounding.

FLIGHT HOURS FORECAST—

General Aviation Hours Flown
(Millions)

Fiscal Year	Fixed Wing				Rotocraft		Other	Total
	Piston							
	Single Engine	Multi-Engine	Turboprop	Turbojet	Piston	Turbine		
Historical								
1980	28.8	6.6	2.1	1.3	0.9	1.8	0.4	41.9
1981	27.9	6.4	2.2	1.5	0.8	1.8	0.4	41.0
1982	25.2	6.0	2.1	1.6	0.6	1.8	0.4	37.7
1983	23.8	5.8	2.2	1.5	0.6	1.7	0.4	36.0
1984	23.4	5.7	2.4	1.6	0.6	1.9	0.4	36.0
1985	23.4	5.7	2.6	1.8	0.6	1.7	0.4	36.2
1986	22.2	4.9	2.7	1.7	0.8	1.8	0.4	34.5
1987	22.1	4.9	2.4	1.6	0.7	1.6	0.4	33.7
1988E	22.1	4.9	2.3	1.6	0.7	1.6	0.4	33.6
Forecast								
1989	22.2	4.9	2.4	1.7	0.6	1.8	0.4	34.0
1990	22.2	5.0	2.4	1.8	0.6	2.0	0.4	34.4
1991	22.3	5.0	2.5	1.9	0.6	2.3	0.4	35.0
1992	22.4	5.0	2.6	2.0	0.6	2.3	0.4	35.3
1993	22.5	5.1	2.6	2.1	0.6	2.6	0.4	35.9
1994	22.6	5.1	2.7	2.2	0.5	2.8	0.5	36.4
1995	22.6	5.1	2.7	2.3	0.5	3.0	0.5	36.7
1996	22.7	5.1	2.8	2.3	0.5	3.2	0.5	37.1
1997	22.7	5.2	2.8	2.4	0.5	3.3	0.6	37.5
1998	22.8	5.2	2.9	2.4	0.4	3.4	0.6	37.7
1999	22.9	5.2	2.9	2.5	0.4	3.6	0.6	38.1
2000	23.0	5.2	3.0	2.5	0.4	3.8	0.7	38.6

E - Estimate
Notes: Detail may not add to total because of independent rounding

Source: FAA

FUEL USE FORECAST—

General Aviation Aircraft Fuel Consumption
(Millions of Gallons)

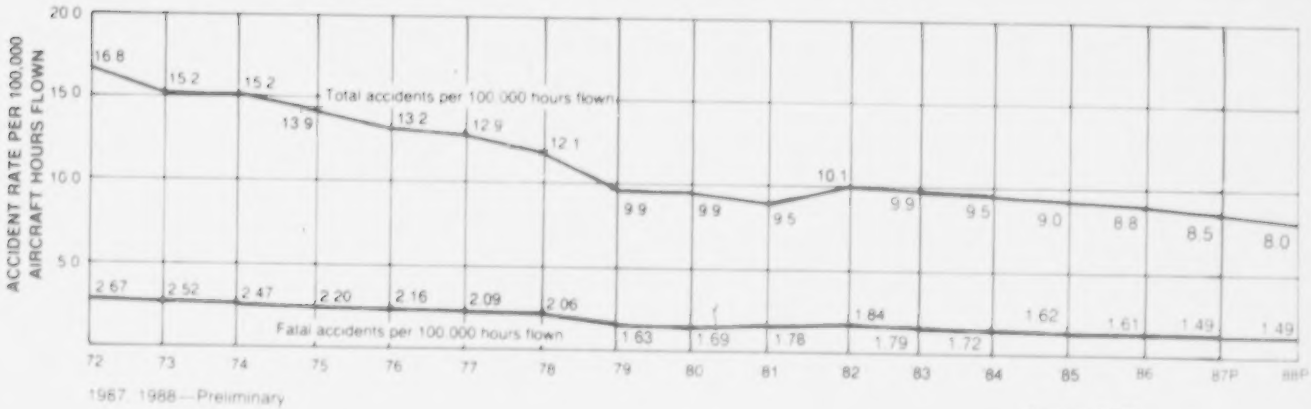
Fiscal Year	Fixed Wing				Rotocraft		Other	Total
	Piston							
	Single Engine	Multi-Engine	Turboprop	Turbojet	Piston	Turbine		
Historical								
1980	287.6	231.1	223.9	474.6	13.3	59.7	0.8	1,291.0
1981	276.5	206.1	219.6	483.2	13.3	57.8	0.8	1,257.3
1982	251.2	197.4	230.8	562.1	9.7	62.5	0.5	1,314.2
1983	235.1	189.3	230.9	396.2	7.8	54.2	0.4	1,113.9
1984	248.8	196.3	236.4	408.0	8.5	62.9	0.2	1,161.1
1985	249.4	178.4	210.2	433.2	8.7	58.9	0.1	1,138.9
1986	242.0	157.8	230.0	451.4	11.0	56.7	0.1	1,149.0
1987	236.5	148.5	197.3	409.4	10.1	55.4	0.1	1,057.3
1988E	236.5	148.5	189.1	409.4	10.1	55.4	0.1	1,049.1
Forecast								
1989	237.5	148.5	197.3	435.0	8.6	62.3	0.1	1,089.3
1990	237.5	151.5	197.3	460.6	8.6	69.2	0.1	1,124.8
1991	238.6	151.5	205.5	486.2	8.6	80.0	0.1	1,170.5
1992	239.7	151.5	213.7	511.8	8.6	80.0	0.1	1,205.4
1993	240.8	154.5	213.7	537.4	8.6	90.0	0.1	1,245.1
1994	241.8	154.5	221.9	563.0	7.2	96.9	0.1	1,285.4
1995	241.8	154.5	221.9	588.6	7.2	103.8	0.1	1,317.9
1996	242.9	154.5	230.2	588.6	7.2	110.7	0.1	1,334.2
1997	242.9	157.6	230.2	614.2	7.2	114.2	0.2	1,366.5
1998	244.0	157.6	238.4	614.2	5.8	117.6	0.2	1,377.8
1999	245.0	157.6	238.4	639.8	5.8	124.6	0.2	1,411.4
2000	246.0	157.6	246.6	639.8	5.8	131.5	0.2	1,427.5

E - Estimate

Source: FAA

HISTORICAL SAFETY RECORD

Accident Rates in U.S. General Aviation (1972–1988)



1987, 1988—Preliminary

Source—NTSB

AIRCRAFT FUEL CONSUMPTION

1988 General Aviation Total Fuel Consumped and Average Fuel Consumption Rate By Aircraft Type

Aircraft Type	Average Rate GPH	Estimated Fuel Use (mil gal)	Percent Standard Error
Fixed Wing			
Fixed Wing—Piston			
1 Eng. 1-3 Seats	10.0	84.1	4.2
1 Eng. 4 + Seats	11.2	160.0	2.7
1 Engine: Total	10.8	244.1	2.3
2 Eng. 1-6 Seats	27.5	64.0	4.5
2 Eng. 7 + Seats	37.0	76.0	9.2
2 Engine: Total	31.3	140.0	5.4
Piston: Other	75.2	2.8	23.7
Piston: Total	**13.4**	**386.9**	**2.4**
Fixed Wing—Turboprop			
2 Eng. 1-12 Seats	86.5	134.2	5.6
2 Eng. 13 + Seats	105.7	72.6	11.3
2 Engine: Total	91.6	206.8	5.4
Turboprop: Other	50.7	4.2	34.3
Turboprop: Total	**901**	**211.0**	**5.3**
Fixed Wing—Turbojet			
2 Engine: Total	257.2	393.1	6.1
Turbojet: Other	470.5	60.7	24.7
Turbojet: Total	**278.6**	**453.8**	**6.2**
Fixed Wing: Total	**27.4**	**1,051.7**	**3.0**
Rotorcraft			
Piston	12.3	7.5	13.6
Turbine	34.2	81.4	6.9
Rotorcraft: Total	**28.4**	**89.0**	**6.4**
Other	11.5	3.4	48.7
Total	**27.4**	**1,144.1**	**2.8**
Total: Jet Fuel	118.8	746.2	4.1
Total: Aviation Gasoline	13.4	397.9	2.4

Source: FAA

Note: Row and column summations from printed totals due to estimation procedures.

General Aviation Manufacturers Association

The General Aviation Manufacturers Association (GAMA)—a national trade association headquartered in Washington, D.C., represents 35 U.S. manufacturers of general aviation aircraft, engines, avionics, and related items.

Aeroquip Corporation
Aerospace Division
300 South East Avenue
Jackson, MI 49203
(517) 787-8121

Aire-Sciences, Inc.
216 Passaic Avenue
Fairfield, NJ 07006
(201) 228-1880

Allied-Signal Aerospace Company
Bendix King Division
400 North Rogers Road
Olathe, KS 66062
(913) 782-0400

Allied-Signal Aerospace Company
Garrett Engine Division
111 South 34th Street
Phoenix, AZ 85034
(602) 231-1000

Aviation Simulation Technology, Inc.
Hanscom Field-East
Bedford, MA 01730
(617) 274-6600

Beech Aircraft Corporation
9709 East Central
Wichita, KS 67201-0085
(316) 681-7111

Century Flight Systems, Inc.
P.O. Box 610
Mineral Wells, TX 76067
(817) 325-2517

Cessna Aircraft Company
P.O. Box 7704
Wichita, KS 67277
(316) 946-7400

Collins Avionics Group
Rockwell International
400 Collins Road NE
Cedar Rapids, IA 52498
(319) 395-1000

Commander Aircraft Company
Kenosha Municipal Airport
Kenosha, WI 53142
(414) 652-8080

Elano Corporation
2070 Heller Drive
P.O. Box 217
Alpha, OH 45301-0217
(513) 427-7035

Fairchild Aircraft Corporation
P.O. Box 790490
San Antonio, TX 78279-0490
(512) 824-9421

FlightSafety International, Inc.
Marine Air Terminal
LaGuardia Airport
New York, NY 11371-1061
(718) 565-4100

Global-Wulfsberg Systems
Sundstrand Data Control, Inc.
2144 Michelson Drive
Irvine, CA 92715
(714) 851-0119

BFGoodrich Aerospace
250 N Cleveland-Massillon Road
Akron, OH 44313-0501
(216) 374-2000

Goodyear Tire and Rubber Company
Aviation Products Worldwide
1144 East Market Street
Akron, OH 44316-0001
(216) 796-7600

Gulfstream Aerospace Corporation
P.O. Box 2206
Savannah, GA 31402
(912) 964-3000

Hartzell Propeller Inc.
One Propellor Place
Piqua, OH 45356-2634
(513) 778-4200

Honeywell Inc.
Business & Commuter Aviation
Systems Division
P.O. Box 21111
Phoenix, AZ 85036
(602) 869-2311

Jeppesen Sanderson, Inc.
55 Inverness Drive East
Englewood, CO 80112-5498
(303) 799-9090

Learjet Corporation
P.O. Box 7077
Wichita, KS 67277-7707
(316) 946-2000

Marathon Power Technologies
P.O. Box 8233
Waco, TX 76714-8233
(817) 776-0650

McCreary Tire and Rubber Company
Polymer Enterprises, Inc.
1600 Washington St.
Indiana, PA 15701
(412) 349-9010

Pacific Scientific Company
22715 Savi Ranch Parkway
Yorba Linda, CA 92686-7019
(714) 283-0283

Parker Hannifin Corporation
Parker Bertea Aerospace Group
18321 Jamboree Blvd.
Irvine, CA 92715
(714) 833-3000

Piper Aircraft Corporation
P.O. Box 1328
Vero Beach, FL 32961-1328
(305) 567-4361

Precision Airmotive Corporation
3220 100th St. #E
Everett, WA 98204
(206) 353-8181

Sabreliner Corporation
18118 Chesterfield Airport Road
Chesterfield, MO 63005-1121
(314) 537-3660

SimuFlite Training
International
P.O. Box 619119
2929 Airfield Drive
Dallas Ft. Worth, TX 75261
(214) 456-8000

Teledyne Continental Motors
Aircraft Products Division
P.O. Box 90
Mobile, AL 36601
(205) 438-3411

Textron Lycoming
652 Oliver Street
Williamsport, PA 17701
(717) 327-7000

Unison Industries, Inc.
7575 Baymeadows Way
Jacksonville, FL 32256
(904) 739-4300

United Technologies Corporation
Pratt & Whitney Canada
1000 Marie-Victorin Blvd.
Longueuil, Quebec
Canada J4G 1A1
(514) 677-9411

Woodward Governor Company
Aircraft Controls Division
P.O. Box 7001
Rockford, IL 61125-7001
(815) 877-7442

Wyman-Gordon Company
105 Madison Street
P.O. Box 789
Worcester, MA 01613-0789
(617) 756-5111

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